

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A data collector comprises:  
a computing device that samples packet traffic over a network, and which accumulates and collects statistical information about the packet traffic on the network; and  
a port to link the data collector over a redundant network that does not carry the packet traffic to deliver the accumulated and collected statistical information about the network packet traffic to a central control center.
2. (Currently Amended) A data collector to sample packet traffic, accumulate, and collect statistical information about network flows comprises:  
a computing device that executes a computer program product stored on a computer readable medium comprising instructions to cause the computing device to:  
collect perform sampling and statistical information collection of data pertaining to network packets received by the data collector;  
~~parse the information in the sampled packets and~~ maintain the statistical information in a log; and wherein the data collector further comprises:  
a port to link the data collectors over a redundant network that does not carry the packet traffic to deliver collected statistical data about the network packets to a central control center upon demand by the central control center.
3. (Currently Amended) The data collector of claim 2 wherein the ~~port links to a~~ redundant network is a hardened redundant network.

4. (Currently Amended) The data collector of claim 3 2 wherein the redundant network is a telephone network or dedicated leased telephone line.

5. (Currently Amended) The data collector of claim 2 wherein the statistical information collected by the data collector includes source information and destination information contained in packets received by the data collector.

6. (Currently Amended) The data collector of claim 5 wherein the data collector collects the statistical information but does not log the sampled packets.

7. (Previously Presented) The data collector of claim 2 wherein the computer program product in the data collector executes rules to analyze the collected statistics and produces a message that raises an alarm to the control center.

8. (Currently Amended) The data collector of claim 2 wherein the data collector further includes instructions ~~a communication process~~ to:

respond to queries from the control center, the queries querying the data collector for statistical information concerning characteristics of packet traffic on the network.

9. (Currently Amended) The data collector of claim 1 wherein the instructions to sample and collect statistical information, samples one packet in every (n) packets and updates counters to collect statistics about the sampled packets~~8 wherein the queries originate from the control center and are for information pertaining to statistics collected by the data collector~~.

10. (Currently Amended) The data collector of claim 2 8 wherein one of the queries is a ~~the query can be a~~ request to download via the redundant network, a portion of the contents of the log maintained by the data collector.

11. (Currently Amended) A method of collecting data from sampled network traffic, pertaining to network traffic flows comprises:

sampling the network traffic and generating ~~data~~ statistical information pertaining to the sampled network packets; and

communicating the generated data over a redundant network that does not carry the packet traffic to deliver the data pertaining to the network packets to a central control center in response to a query for the statistical information from the central controller.

12. (original) The method of claim 11 wherein generating further comprises: monitoring a parameter of traffic flow at multiple levels of granularity.

13. (Previously Presented) The method of claim 12 wherein monitoring the parameter at multiple levels of granularity is used to trace the source of an attack.

14. (original) The method of claim 13 wherein monitoring further comprises: dividing the traffic flow into buckets that track counts of how many packets a data collector or gateway examines for a given parameter; and adjusting the number of buckets as the number of buckets approaches a bucket threshold, by combining several buckets into fewer buckets or dividing a bucket into more buckets.

15. (original) The method of claim 11 wherein generating further comprises: applying multi-level analysis to monitor TCP packet ratios, repressor traffic and statistics based on Layer 3-7 analysis.

16. (original) The method of claim 15 wherein layer 3-7 analysis comprises: monitoring network traffic for unusual levels of IP fragmentation, or fragmented IP packets with bad or overlapping fragment offsets.

17. (Currently Amended) The method of claim 15 wherein layer 3-7 analysis comprises:  
monitoring network traffic for IP packets with ~~obviously~~ bad source addresses or ICMP  
packets with broadcast destination addresses.

18. (original) The method of claim 15 wherein layer 3-7 analysis comprises:  
monitoring network traffic for transport control protocol (TCP) or user datagram protocol  
(UDP) packets addressed to unused ports.

19. (Currently Amended) The method of claim 15 wherein layer 3-7 analysis comprises:  
monitoring network traffic for transmission control protocol (TCP) packets with  
unusually small window sizes, which ~~can~~ indicate server loading due to an attack, or  
transmission control protocol (TCP) ACK packets that do not belong to a known connection.

20. (original) The method of claim 15 wherein layer 3-7 analysis comprises:  
monitoring network traffic for an indication of a frequency of reload requests that are  
sustained at a rate higher than plausible for a human user over a persistent HTTP connection.

21. (Currently Amended) A computer program product residing on a computer readable  
medium for ~~controlling a data collector to sample~~ sampling network packet traffic[[,]] to  
accumulate, and collect statistical information about network flows, comprises instructions for  
causing the ~~data collector~~ a device to:

~~perform sampling and collect network packets and produce statistical information~~  
~~collection of data~~ pertaining to collected network packets;

parse ~~the~~ information in the ~~sampled~~ collected packets and maintain the information in a  
log; and

send the ~~communicate~~ statistics ~~generated by the data collector~~ to a central control center  
over a redundant network that does not carry the packet traffic in response to a query from ~~to~~  
~~deliver the data pertaining to the network packets to the central controller.~~

22. (Previously Presented) The computer program product of claim 21 further comprising instructions to:

~~respond to queries from the control center, the queries querying for information concerning characteristics of packet traffic on the network~~

monitor a parameter of traffic flow at multiple levels of granularity to trace the source of an attack, with instructions to monitor further comprising instructions to:

divide the traffic flow into buckets that track counts of how many packets a data collector or gateway examines for a given parameter; and

adjust the number of buckets as the number of buckets approaches a bucket threshold, by combining several buckets into fewer buckets or dividing a bucket into more buckets.